

Prevalence and Duration of Hepatitis C Among Injection Drug Users in San Francisco, Calif

Injection drug users are the population most affected by the hepatitis C virus (HCV); an estimated 60% of HCV transmission in the United States is attributed to injection drug use.¹ Progression to cirrhosis, hepatocellular carcinoma, or both is believed to occur in 20% to 30% of infected persons within 2 to 3 decades.² There are an estimated 1.0 to 1.5 million injection drug users in the United States.³ To anticipate the future burden of HCV-related care among injection drug users, it is important to determine the prevalence and duration of infection.

We tested stored serum samples collected in 1987 from 372 injection drug users for HCV

antibody, using the HCV Version 3.0 ELISA (Ortho Diagnostic Systems, Raritan, NJ). Subjects were part of a targeted sample⁴ of street-recruited injection drug users participating in the Urban Health Study, an HIV prevalence and risk behavior study in San Francisco, Calif. Demographic, risk behavior, and drug use history data were also collected as part of the Urban Health Study.

Of the 372 serum samples from 1987, 353 (95%) tested positive for HCV antibody. This proportion is higher than the 72% found in Sacramento in 1987–1989⁵ and the 89% found in Baltimore in 1988–1989.⁶ As in those studies, HCV prevalence was strongly associated with length of injection career (Figure 1). Of those injecting for 2 years or less, 75.9% were infected (95% confidence interval [CI]=0.56, 0.90). Of those injecting for more than 10 years, 98.8% were infected (95% CI=0.96, 0.99). There were no significant differences in prevalence by race, sex,

or frequency of injection. The median year of initiating injection drug use was 1972 (interquartile range=1967–1979). Because most injection drug users test positive for HCV antibody within 2 years of commencing injection drug use,^{5,6} the majority of injection drug users in this sample were most likely infected by the mid-1970s and are now well into their third decade of infection. Thus, large numbers of injection drug users may be developing liver disease at this time.

Current national guidelines recommend that only injection drug users who have ceased to use drugs receive HCV therapies such as interferon and ribivarin plus interferon.² However, the capacity of the drug treatment system in the United States is sufficient for only 10% to 20% of injection drug users at any given time.³ Given the profound penetration of HCV into injection drug user communities, we must consider alternatives to this recommendation. We suggest that HCV-related treatment deci-

sions be made by the physician and the individual drug user on a case-by-case basis and with consideration of such issues as potential for adherence, possible drug interactions, and the risk of reinfection. In addition, strategies, such as outreach, incentives, and community-based treatment sites, that have proven successful in public health arenas such as tuberculosis treatment⁷ should be used in developing HCV treatment programs for injection drug users. Finally, injection drug users ought to be included in trials of new treatment regimens to determine whether the treatments will be effective in this large segment of the infected population. □

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This research letter was accepted March 23, 2000.

Contributors

J. Lorvick planned and directed the study and wrote the paper. A.H. Kral assisted with the study design, data analysis, and writing of the paper. K. Seal contributed background materials and assisted in the analysis and writing. L. Gee supervised the data analy-

sis and presentation. B.R. Edlin designed the figure and assisted in the study design, data analysis, and writing of the paper.

Acknowledgments

The study was supported by the National Cancer Institute and the San Francisco Department of Public Health.

Procedures were approved by the Committee on Human Research at the University of California, San Francisco.

References

1. Alter MJ. Epidemiology of hepatitis C. *Hepatology*. 1997;26(3 suppl 1):62S-65S.
2. *Management of Hepatitis C*. Washington, DC: National Institutes of Health; 1997:1-41. Consensus Statement 15.
3. Normand J, Vlahov D, Moses LE, eds. *Preventing HIV Transmission: The Role of Sterile Needles and Bleach*. Washington, DC: National Academy Press; 1995:58-59.
4. Watters JK, Biernacki P. Targeted sampling: options for the study of hidden populations. *Soc Probl*. 1989;36:416-430.
5. Zeldis JB, Jain S, Kuramoto IK, et al. Seroepidemiology of viral infections among intravenous drug users in northern California. *West J Med*. 1992;156:30-35.
6. Thomas D, Vlahov D, Solomon L, et al. Correlates of hepatitis C virus infections among injection drug users. *Medicine*. 1995;74:212-220.
7. Lorvick J, Thompson S, Edlin BR, Kral AH, Lifson AR, Watters JK. Incentives and accessibility: a pilot study to promote adherence to TB prophylaxis in a high-risk community. *J Urban Health*. 1999;76:461-467.

